

Florida

Florida's Fishing Future
Magic Moments—Hunting

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WILDLIFE

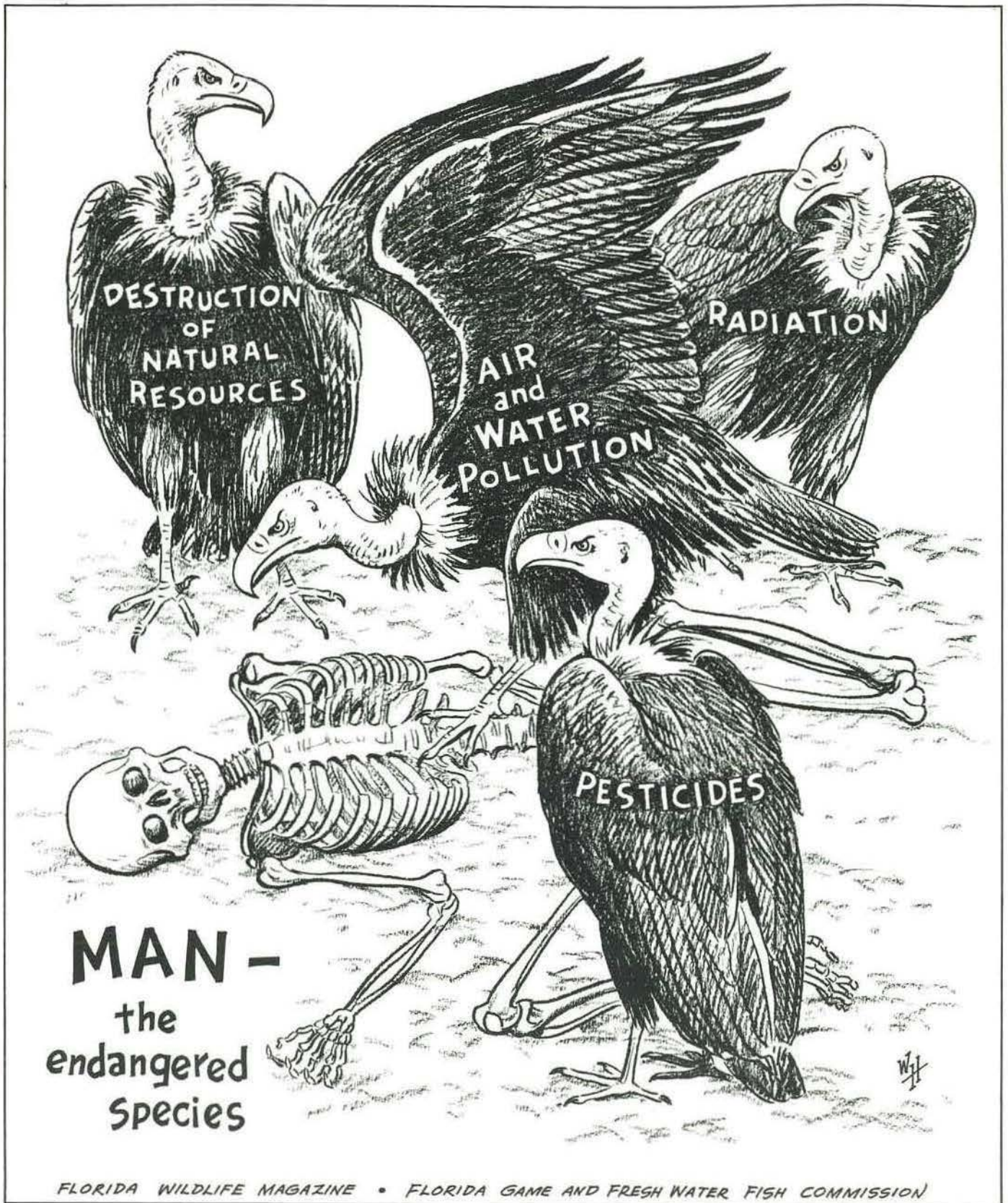
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The Florida Magazine for all Sportsmen

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Florida Wildlife Scrapbook



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The Cover

A woodlands animal-tree climber and nighttime hunter—the Gray Fox generally sleeps or suns itself during the day. It will guard its territory from other foxes all the time. See page 18.

From A Painting By Wallace Hughes

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Garfish Story

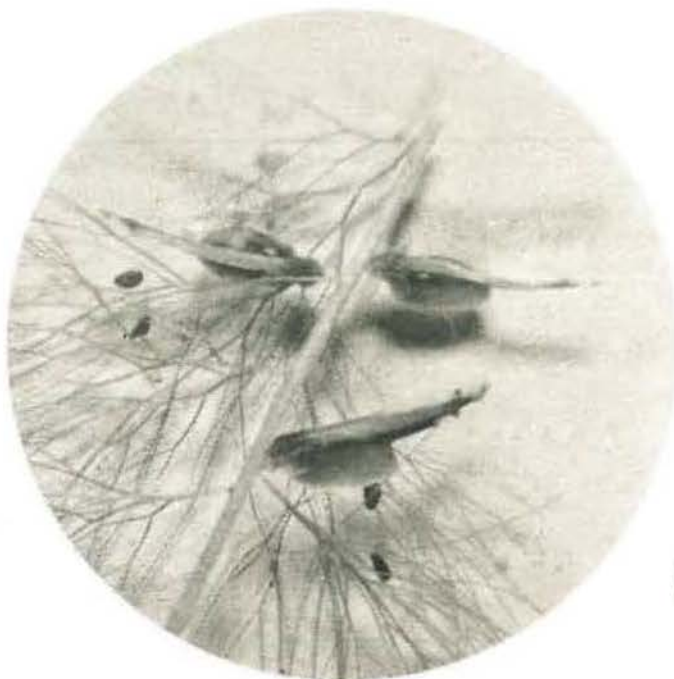
some strange facts about spawning
and development of the young

By **JOE CRUMPTON**
Fish Management Specialist

The author, left, prepares to photograph BB-size gar eggs through low-power microscope during garfish life history study. Crumpton's photos, below, show (1) a few of about 60,000 freshly deposited eggs; (2) the fry, firmly attached to vegetation moments after hatching; (3) two-day old fry, with diminishing yolk sac, and (4) six-day old, free-swimming half-incher.



1



2

WE'VE ALL PUT the "bad mouth" on the gar at one time or another—or heard it done—but how many Florida fishermen really know much about this toothy torpedo?

The answer is, "Not very many."

Some poking around into their private lives for the sake of science has led to lots of interesting little things about the gars. So, unless you "already have your mind made up" and flatly refuse to be "confused with facts," string along for a minute or two. You might enjoy it.

Gar are members of the genus *Lepisosteus*, some of the oldest living bony-skeletoned, spiny-rayed fishes. They date back to the Devonian period of time, or about 300 million years.

The gar family contains about ten species, which are restricted to Central and North America and the West Indies. Three species are found in Florida. They are alligator gar (*Lepisosteus spatula*), longnose gar (*L. osseus*), and Florida gar (*L. platyrhincus*). Their thick, diamond-shaped ganoid scales are characteristic of the older families of fishes. Through the years, as their scales became thinner and more rounded, other fish became speedier and more agile than the gars.

Like ordinary fish, gars absorb oxygen through their gills. But when the water becomes unfit for most fish life, the gars rise to the surface and gulp air into a lung-like air bladder. The other fishes die while the gar live on.

Gars have a rather lengthy spawning season in Florida. It begins as early as February and has been observed into the month of June. In our studies, spawning observations were made under cypress trees located in shallow, sandy areas, in lily pad-filled coves, around floating islands, and in the shallow, grassy littoral zones of lakes.

A spawning female game fish usually pairs off

with a single male while nesting, but the spawning female gar may be accompanied by four to six males. They swim around in the area where spawning is to take place and then move into shallow water—sometimes so shallow that the backs of the fish are out of the water. The female thrashes around in the water with the males lined up along her sides, beginning about her midsection. While she lays her eggs the tails of the males fan rapidly as *milt* is released. Thus, the eggs are fertilized.

This ritual lasts only for a short period of time, after which the female moves into deeper water. The males remain in the area for a few minutes and then move into deeper water, too.

Observation indicates that the same male may fertilize the eggs of more than one female.

According to research reports, large gar may lay up to 60,000 eggs. The eggs are fairly large—about the size of BB shot—and blue-white in appearance. They adhere to sticks, plants, roots, or most anything in the spawning area. The gars do not construct nests.

Incidentally, gar roe is poison, so don't eat any. For fish bait, however, the big gar eggs are hard to beat. Remove the roe from one big female gar and you have a good supply of bream bait.

The gar eggs begin to hatch about 72 hours after they are deposited. Prior to breaking free of the egg, the small gar fry wriggle very rapidly for two or three seconds, after which they lie still from a few minutes to half an hour. This process may be repeated for several hours before the fry are able to pop free—head first.

After breaking free from the egg the gar fry attaches itself to a nearby piece of vegetation by a sucker-like disc on the end of its nose.

At this stage the fry resembles a tadpole. The
(Continued on next page)



(Continued from preceding page)

yolk sac is prominent and neither the fins nor the jaw are well developed. The back is dark brown or black and the under parts are whitish.

Within four to six days the yolk sac is absorbed and the fry release the objects to which they have been clinging. By the time the fry become free swimming, their jaws, teeth and fins are well developed.

We were able to observe the early stages of the gar's life at the Fisheries Research Laboratory at Eustis in April 1969. From the time the gar fry hatches until it starts swimming free, it shows a tremendous growth rate. In five days, captive gar still getting nourishment from their yolk sacs grew half an inch in length. Fry kept thirty days grew one and a half inches in length. At that rate a gar could attain a length of eighteen inches in one year.

The free swimming gar fry begin to feed immediately. They eat blind mosquito larvae, other tiny invertebrates, and small fish fry. Those we observed in captivity ate so many blind mosquito larvae they could not maintain equilibrium. They floated belly up until the food in their stomachs could be partially digested! But fast-growing gar soon outgrow their hunger for the tiny invertebrates. In the natural environment, schools of small skipjack, shiners and mosquito fish (potbellies) supplement their diet.

To capture its food the gar glides along with no apparent motion until it is alongside its prey. Then, with a quick sideward motion of the head it snags its dinner.

Minnows are usually taken about in the mid-section and turned until they can be swallowed headfirst. In captivity, two gar sometimes attempt to eat the same minnow, and a struggle ensues that is occasionally quite damaging to one of the combatants. One gar will refuse to give up its right

to the minnow even though its brother gar begins to swallow it along with the minnow. In fact, the larger captive gar fry were often observed feeding on the slower growing fry in our study. Cannibalism is not at all unusual in nature.

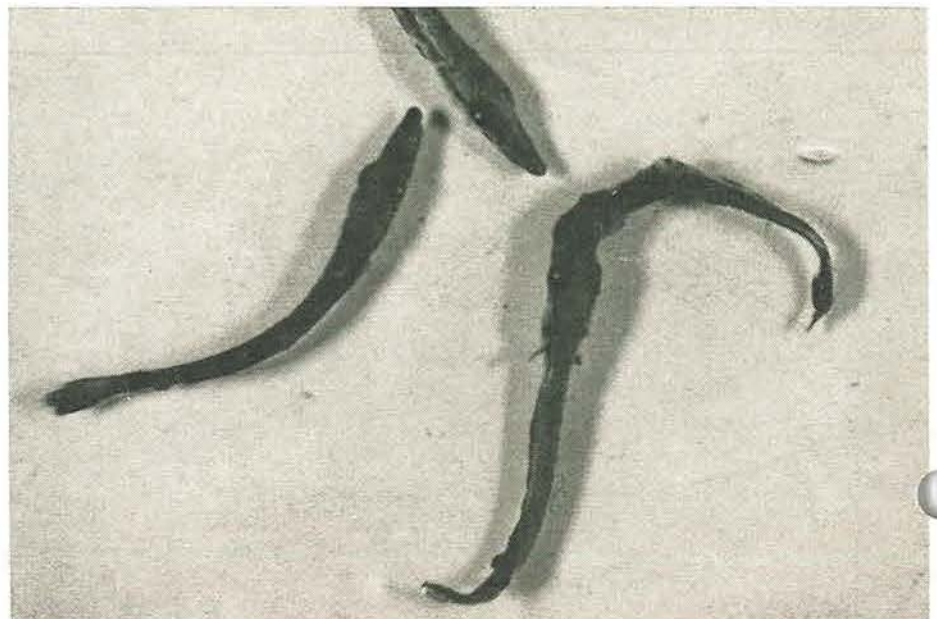
From small minnows, the growing gars move on to feed on larger fishes. Contrary to a lot of fishermen's beliefs, though, their diet is composed mostly of *nongame* forage fishes—shad, catfish, various minnows, etc.—according to the results of a food habit study on longnose and Florida gars just completed at the fisheries laboratory at Eustis.

In the study, conducted in five central Florida lakes, a total of 888 gar stomachs were collected and the contents examined. There were 285 longnose and 603 Florida gar. Over half the stomachs were empty—456 to be exact. Examination of the remaining stomachs indicated that both species of gar preyed principally on nongame fish. The fact held true in all five study lakes. Further, it was concluded from the evidence that gars are not as voracious as they have been depicted. From the amounts of food in the stomachs and the considerable time lapse between collection of the gars and preservation of their stomachs, it was concluded that they eat less and digest it more slowly than the average fisherman believes. This finding agreed with other studies on gar food habits conducted in Florida by earlier researchers.

Gar suffer a very high mortality rate while young but are almost indestructible when they are mature. Nature must have intended it that way. Although not much is usually said in favor of gars, they have a place in the scheme of things. They help remove "trash fish" from the water; they can put up a rod-bending fight; they may be a possible source of food for the growing world population.

One thing is sure: they'll be around for a while. Who knows? Maybe for another 300 million years. ●

The voracious 10-day old gars often fought over a morsel—in some cases smaller gar—and tried to swallow each other. The adult gars, however, actually eat less and digest food more slowly than is commonly thought. Their diets are predominantly nongame fish species, according to extensive investigations conducted by Joe Crumpton and others.



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Wildlife Officer Notes

THREE WILDLIFE officers have successfully completed the 200-hour Police Standards School, now required of all full-time law enforcement officers employed in Florida, and another 11 are enrolled in the standardized course at various campuses around the state.

According to Maj. Brantley Goodson, Chief of Law Enforcement Division, Game and Fresh Water Fish Commission, Florida law now requires that all law enforcement personnel meet minimum professional standards set by Florida's Police Standards Council. The Council, created by an act of the 1967 Legislature and signed into law by Gov. Claude R. Kirk, Jr., in June of that year, consists of four permanent members and eight members appointed by the Governor to four-year terms. The permanent members are the state attorney general, the superintendent of public instruction, the director of the department of public safety, and the FBI agent in charge of training in Florida.

Only officers employed after June 9, 1968 must meet the educational and other requirements of the Police Standards Council Act, primarily designed to improve recruit training programs statewide—although in-service training is being planned under the act.

Commission Training Officer Lt. Alan Lamarche, Tallahassee, says 41 Police Standards Schools have been set up around the state to date—mostly at junior colleges and vocational-technical schools.

"Some officers attend classes two nights a week until they complete the 200-hour course; other schools are operating from 8:00 to 5:00, five days a week for five weeks; some officers are attending night sessions. The scheduling is very flexible, but the course work is all the same at every school," he says, adding that "about 50% of the course is being taught by FBI instructors."

All instructors are certified by the Police Standards Council.

"The fact that each of our officers has already completed the Game and Fish Commission's own training school—usually two weeks in duration—does not exempt them from the Police Standards requirements. Rather, our curriculum deals more specifically with game and fish law enforcement problems, whereas the Standards School is geared to general law enforcement work. The two schools compliment each other," Lamarche feels, "and we'd like to see the Commission course lengthened eventually to four—maybe even six weeks, so we can concentrate more on field work and woodsman-ship."

Wildlife officers already graduated from the Police Standards School are D. W. Love, Sarasota;



Police Standards Schools cover 42 topics, from criminal law through court procedures, to first aid. Other topics include laws of arrest, rules of evidence, investigation and patrol techniques, procedures with juveniles, and extensive firearms instruction—each officer must qualify with a pistol.

J. W. Phipps, New Port Richey; and Merle Manzi of Plant City.

Those now completing the course are J. R. Greek of Perry; P. C. Weaver, Woodville; W. B. Williamson, Lanark Village; Wayne Porter, Umatilla; J. B. Wigglesworth, Wildwood; B. C. Poole, Crystal River; W. L. Geiger, Labelle; C. M. Fell, Naples; Herbert Wilkerson, Copeland; C. R. Childs, Palmdale; and Conley Campbell of Fort Lauderdale.

"If we are to attract and hold the type law enforcement officer we need, we must continue to upgrade the profession. Better training schools is the logical place to begin. The adequately trained, confident wildlife officer is what we want—and this is what the Commission training program and the Police Standards School are all about," says Maj. Goodson.

A PAPER ON "Alligator Problems in Florida" was presented at the Law Enforcement Section, Southeastern Association of Game and Fish Commissioners meeting at Mobile, Alabama, in October.

Combining their talents in preparing and presenting the color slide-illustrated talk were Assistant Chief of Law Enforcement Capt. David E. Swindell, Jr., and Training Officer Lt. Alan Lamarche, both of Tallahassee, Central Region I&F Officer Lt. Jim Reed, who did the photography, and Central Region Game Biologist Larry Martin, who described a method for distinguishing between caiman and alligator skins. ●

Tackle Talk

FISHING

some of the best fresh water fishing "seasons" are approaching—and there are increasing numbers of tackle and general gear for consideration

By CHARLES WATERMAN



ALTHOUGH BIG GAME hunters, bird watchers and racing fans are addicted to all sorts of long range optical gear, fishermen often do without it, unless they also fall under the aforementioned categories.

Most of them have some sort of binoculars, probably stored in a very safe and useless place around the house. I use glasses more than most, maybe through habit—maybe because I am snoopy. Other than studying nature, locating the way home by boat and spying on more successful fishermen, binoculars are helpful in catching distant fish movements, finding why the gulls are circling a certain spot, and locating good shorelines across a lake.

The prices run all the way from here to there. The most expensive glasses, such as Leitz and Bausch & Lomb models, are wonders of precision and family treasures. There was a time when their optics were obviously superior to anything else available. There are now more moderately priced glasses, mostly Japanese, that give definition and color rendition that are not discernible from the ultra glasses by the layman user. It is probable that they are somewhat less durable, and may not be as well sealed, but this is a general statement applying to no specific glass.

In humid climates such as Florida, optical equipment tends to collect fungus between the elements. This is probably less likely in the better grades than in the cheaper stuff, and I suppose that the finest sealing processes may eliminate it entirely. A little fungus won't hurt anything but continued dampness can ruin an instrument. Some of the fungus can be cleaned off; some of it etches into the glass. I have cleaned up a couple of spotting scopes myself. I ruined a pair of binoculars by taking them apart and trying to put them back together after cleaning. The worst optical messes I have seen were in the South Pacific many years ago. I have one old camera with a lens that still bears the marks of that business although it makes acceptable pictures.

There is a lot of pleasure to be had from good

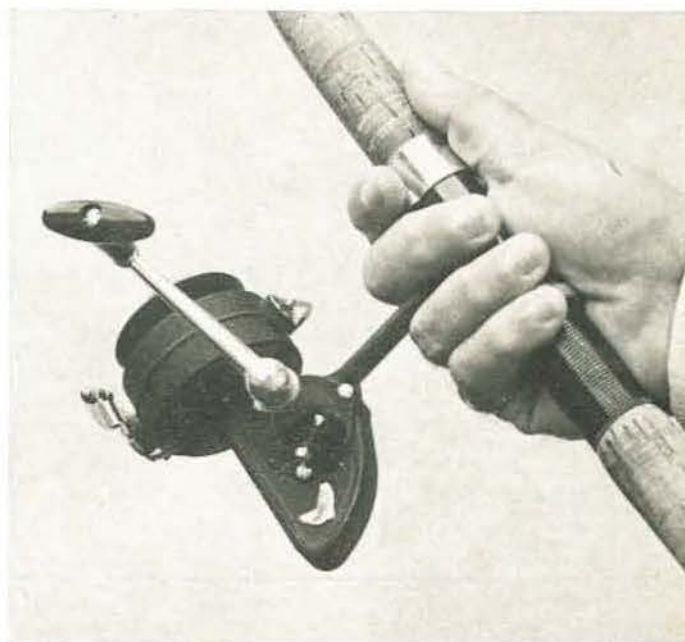
binoculars, but I know several fishermen who have bought them and failed to make much use of them. The ones they got were simply too heavy.

I HAVE BEEN trying a Quick 221 spinning reel, a medium-sized number, with a fast retrieve. Quicks are well-known reels with a long record of good service and this one is especially neat in appearance and well finished. It's the right size for fresh water or light salt water fishing, and the retrieve is a snappy 1 to 4.85. That means when you turn the handle once, the bail turns almost five complete turns. The 221 has a quick conversion feature that changes it promptly into left-hander.

Although the amount of line that actually goes on the spool in five turns depends on how nearly full the spool is, a one-to-five pickup is pretty fast. I don't know the average, but many of the good spinning reels take up at one to three-something. Baitcasting reels (turning spool) are traditionally quad-multiplying; that is, one turn of the handle turns the spool about four times.

A disadvantage of some of the early spinning reels was a slow take-up, possibly necessary on very heavy fish, but a nuisance in retrieving a lure that should move fast; a nuisance, too, when you cast

(Continued on next page)



The Quick 221, a fast take-up reel of small to medium size, can be changed from right to left hand operation with little trouble. The removable plate where the handle enters the reel body can be transferred from one side to the other.

(Continued from preceding page)

to striking fish and need your lure back in a hurry to try again. The ultra-fast retrieve is very helpful in lure operation. Naturally, it somewhat reduces your leverage on the fish but it's seldom that you have to crank that hard.

THERE'S LITTLE DOUBT that late winter and early spring produce the biggest bass for Florida anglers. As we say each year, this is when the bigger fish are either spawning or preparing to spawn, and are most vulnerable. That doesn't mean the late winter and early spring is necessarily the best time for fishing—simply that it is the best time for really big fish, found in the shallows and caught by the sportier methods.

I would like to caution big bass hunters against waiting too long. Several times I have heard really fine fishermen banking on the records of the year before and putting off their expeditions until late February or March (that's in the middle part of the state). It is quite likely that Christmas time will be really good for these big fish.

If I had to choose a particular time for big bass in, say, central Florida, I'd pick mid-February, but the time varies greatly with the weather. I once located some big bass on a flat in December, and they were acting a lot like fish preparing to spawn. This fishing can start any time after late December in my experience.

THE ABSOLUTELY BEST gadget I have found for holding on eyeglasses is the "Snugger," sold by Burke Fishing Lures, 1969 South Airport Road, Traverse City, Michigan 49684.

This thing is practically weightless and is simply a curly-cued piece of plastic (like those telephone cords that stretch in coiled spring fashion). It fastens to the ends of the earpieces, and is great stuff for people like me who tend to plant spectacles in the better fishing spots.

You hardly know you have it on and it will

allow you to drop your glasses around your neck if you don't use them all the time, and if they have ear pieces that are a little enlarged on the ends to hold the Snugger firmly.

I don't think they sell these by mail order, but keep an eye out for them in the stores. When I get ecstatic about a product, it usually develops some terrible deficiency I'm not aware of, but I can't see how you can go wrong on these for 85 cents. Two of us have been wearing them now for a couple of months.

GLASS FLY RODS are probably not as durable as the old bamboos, a fact that has been gradually dawning on me in recent years. I am sure these remarks will not hurt the sale of fiber glass rods; in fact, it's only the real "nuts" on the subject who buy bamboo anyway.

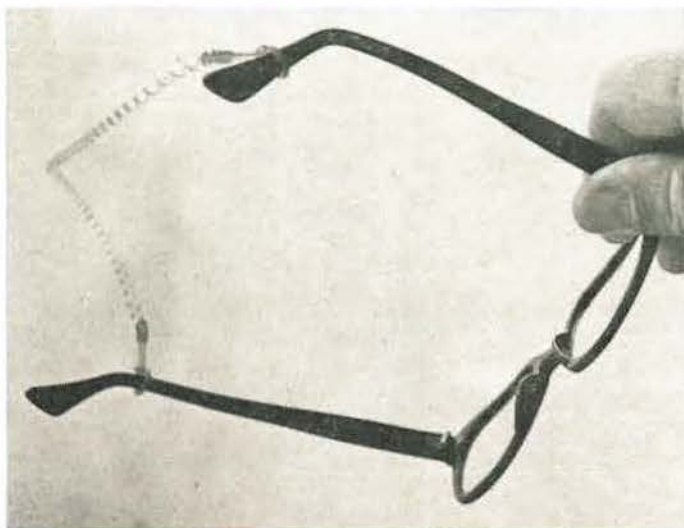
Inflation being what it is and considerable hand-work going into bamboo, some of the better numbers can cost upward of \$200. For that matter, some of the glass ones are getting pretty expensive, too.

Bamboo now has several forms of finish going for it, things that protect the wood and keep up the appearance. Then, there's impregnation such as that advertised by the Orvis people, which really makes things tough.

Admittedly, long, hard use can cause bamboo to soften a little, as it can most kinds of glass rods. Glass can be made with thick walls (or even solid) so that it will take a terrific beating, but the unending demand for light weight and certain types of action has led to pretty thin walls in many cases. We must admit that there is a lot of glass fly rod breakage and I'm not talking about tips. Many times the rods break down near the handle. Manufacturers generally take a fatalistic attitude about this, and are generous in repair and replacement.

Bamboo is still very popular among those who fish very light fly rods. Glass has really taken over the heavy work. That's the way I use them—bamboo for light use; glass for heavy. Anyway, I'd never go very far without a spare.

SOME YEARS ago, I was told by a tournament caster that you should never hook your finger around the line while making a cast with an open-faced spinning reel. He explained that you gained much more control by simply holding the line against the side of the spool. This is a trick that's much harder to do and I have never been proficient at it. Most of us more awkward spin fishermen hold the line on the pad of the finger until the moment



"Snugger" eyeglass holders shown here are light-weight and stretchy—will prevent eyeglass loss.



It probably looks a little strange to a passerby, but putting a rod tip well under water is a good way of steering a snook from the mangrove roots.

it's released, and many instructional manuals recommend this method.

I do not doubt that extreme accuracy can be acquired by the pressure method. Until you learn it, you'll frequently let the line loose accidentally, especially if the lure is heavy.

In summing up that learned subject, I'll say that for most use it doesn't make much difference. Of course, this may be just an excuse for my own fumbling.

MANY BLACK BASS fishermen will put the rod tip under water to prevent jumping. Most of the time, I'd much rather see the fish jump, but I confess that I have held a bass down occasionally when I wanted him very badly. With very heavy fish, it is necessary to give slack line on jumps to prevent breakoffs, but most bass aren't that large and a tight line will prevent plug throwing.

Rod tip immersion isn't very good form in most fishing but mangrove operation is an exception. Since the roots don't extend clear to the bottom (although going under water), some of the shore-line fish, especially snook, may run back of them, but be near enough the bottom that a pull from a very low point may put pressure on the fish without hanging up in the roots. Thus, I'll often push my rod tip down toward the bottom in an effort at dragging my prey into the open. Looks kinda' funny.

There are times when bass follow so close to a boat that you can get a strike by simply waving the

lure around on a submerged rod tip following the retrieve. I've seen this done but it doesn't work very often. Generally, the rod tip and the proximity of the boat scare the fish away.

With northern pike (a long way from Florida) this rod-tip fishing is a very common thing. Pike are notorious for following and aren't very smart when on a feeding binge. You see this wake coming behind your lure so when you get to the gunwale, you just stick the rod tip down and wave it in a figure-eight or back and forth, and the fish is likely to grab it.

Sounds a little strange for people who are continually urging you to "keep the rod tip up."

INFLATION HAS done something to fishing tackle besides boosting new prices. It has complicated the matter of repairs. A small tackle dealer told me the other day that he is badly hampered in supplying repair parts because many companies now demand rather large minimum orders on parts. Wanting to do a small bit of repair work as a matter of customer relations (no profit), he wants to buy a dollar part and install it for a faithful client. Nope, says the distributor. You have to make a minimum order of ten bucks or no soap.

This means that really cheap reels may as well be pitched into the trash if they break down—unless you happen to know a fix-it man who patches things as a labor of love at starvation wages. At current labor prices and overhead levels, there isn't much can be done to a reel for less than a dollar. A thorough cleanup at garage mechanics' wages would run around five to ten bucks with no new parts installed.

In the past five years, many repair parts have roughly doubled in cost anyway. Most fishermen feel the reel repairman can work a lot more cheaply than a plumber or electrician. Since both usually maintain a place of business, this is a little hard to rationalize. The confusing part is that much equipment repair is done as customer relations, the small charge failing to cover costs. The big reel repair outfit, taking care of repairs on a wholesale basis, can provide the parts more cheaply than the neighborhood tackle shop.

More than ever before, the very cheap reel is a poor investment.

THERE HAS BEEN considerable research on just how many fish live and how many die as a result of being released after catching. The dangers seem to be principally from rough handling, swallowed hooks that injure vital organs, and cuts caused by hooking. With most fresh water species, it seems to do no permanent damage to play a fish out on a line. ●



About halfway down the tree I spied a buck . . .

IN HUNTING, as in life, there seems to be no end to decisions. Some are made by chance; some require deliberation. Some are inconsequential; some alter the situation drastically, either in favor of the hunter or in favor of his game.

These are magic moments—fleeting seconds when the die is cast, for better or worse; when everything is decided.

Some magic moments can be almost unbelievable—yet true. They seem to confront *deer hunters* more often than they do other nimrods:

By agreement, our party was to cease hunting at noon and return to the car.

I had gone into the woods about a mile deep to occupy a favorite tree stand. I saw no deer until 11:40, when a lone doe passed unconcernedly, stopping occasionally to look along her back trail.

It so happened I was wearing nylon knit-mesh gloves.

I kept waiting for a buck to follow, but saw nothing. Finally, at 12:05—and already late for the reassembly—I took a final, long and careful look around before starting to climb down out of the tree. When I was half way to the ground I spied

Magic Moments

when hunting white-tailed bucks

By EDMUND McLAURIN

a buck following along the doe's route—a much desired monarch of the forest we had named "Blue Boy," because of his pronounced blue-gray color.

Hugging the tree trunk with one arm, I placed the Marlin Model 336 across my wrist and eased back the rifle's hammer from safety-lock position, watching the buck all the while.

When scope reticule intersected the buck's heart area, I smoothly squeezed the trigger. There was no shot—not even the usual metallic click of hammer fall! The glove material had wedged itself between falling hammer and firing pin. (Later

examination showed a slight dent in the cartridge's primer but not quite deep enough to cause explosion.)

By the time I could clear the jammed glove and re-cock the hammer, "Blue Boy" had again entered concealing brush. Perhaps an effective shot could have been fired at the last moment, at his point of disappearance—but one of my cardinal gun safety rules is never to shoot wildly into brush.

"Blue Boy" had his magic moment, and never knew it. It was just one of his lucky days.

It is generally conceded that expert marksmanship is best obtained by shooting from the shoulder of same side as the shooter's master eye.

Quite often, a normally right handed person will benefit substantially by changing over to left shoulder, if his best aiming eye is on the left side. I'm one of those.

But I've also learned that it pays to be ambidextrous.

One deer hunting morning I had an unusually large buck run near my stand. He had not seen me, but the angle of his passing and field conditions were such that I dared not risk considerable arm and body movements that shooting normally from left shoulder would entail.

The magic moment was when I made the decision to shoot from opposite shoulder and with opposite eye, in favor of not having to move. The shot was true and the buck was one to long remember.

It was the second day of the deer season, and I had taken stand near the top of a gentle slope, seated comfortably on a portable stool, back against a large pine.

From daylight until around 9:30 I kept a sharp eye and rifle ready. Mostly, I was looking down the slope, marked by a game trail and a small clump of thick brush about eighty yards from my position. I must have looked at the clump of bushes a hundred times before 9:30.

About that time, a doe came walking by, so close I could almost reach out and touch her with rifle barrel. But since I remained *perfectly still*, not even blinking an eye, she showed no alarm and slowly walked down the trail. She stopped by the thick clump of bushes for several minutes, then walked on. Just before disappearing, she once again stopped and looked back.

Less than ten minutes later, two hunters came barging by, walking along the trail.

They never saw me against the pine just off the trail, but did see the fresh tracks of the doe. Close to the clump of bushes, they stopped and discussed the doe's tracks, before moving on.

Their noisy visit prompted me to take a break and use the brief period to make a photograph of the fresh deer tracks. I opened the action of my rifle, slung the rifle over a shoulder, picked up my camera and leisurely walked to the spot where the hunters had stopped.

(Continued on next page)

As I started to focus my camera, a big buck "exploded" from the brush . . .





Drawings By Wallace Hughes

(Continued from preceding page)

Just as I knelt in the trail and started to focus my camera, a big buck exploded from the nearby patch of brush! His rack was so large that when he started his escape run he had to swing his head up and down for balance.

All I could do was watch him disappear into the brush, headed towards the road, about sixty yards away. I did manage to yell "Big buck—road!", as a hopeful warning to a companion I knew was on a road stand. The warning failed. My friend said the buck hit the clay road running fast and was gone before he could reach the rifle he had set aside in favor of a cigarette.

The buck, of course, had been bedded down in that thick clump of bushes all the time—probably since before daylight. Had I been carrying binoculars (as I now habitually do) instead of camera I'd probably have picked up some ear or antler movement as I repeatedly scrutinized the area.

Another mistake was not carrying my rifle in usual ready-to-use state. Two magic moments, flubbed!

Then there was the cloudy, cold morning when deer trailing dogs brought a 5-pointer within ninety yards of my tree stand.

First sight of the buck was the animal running broadside through the trees and low scrub. Twice my scope reticule sought and *almost* found correct alignment, and twice the buck was lost as it ran through closely growing trees.

But a tiny clearing, not much larger than a 9x12 living room rug, provided the opportunity to shoot. The buck hit the opening running full speed and made an instant, sharp turn.

He was now in clear view—but an undesirable target, as his new course was a straight-away run.

It had to be a rump shot or none. The scope

reticule found aiming position on the buck's left haunch. The shot hit very close to point of aim and traveled lengthwise through the body, the heavy .35 caliber bullet emerging close to base of neck on right side. The deer dropped as if slugged with a yesteryear circus tent stake-driving sledge!

The magic moment was the decision to make an exacting shot at fairly long range at a small, bouncing portion of the deer's anatomy.

On another occasion I had taken my usual silent vigil against a pine tree and was not only alert for any deer movement in the area, but periodically scanned the thick brush with binoculars. During one panoramic sweep of the helpful glasses, I picked up a large deer standing almost hidden in distant brush. Forest growth was so thick that I could barely make out the form of the animal through the interlacing growth.

The deer was standing with rump towards me; its head could not be seen. I kept binoculars focused on the body outline, and when the deer turned its head slightly I saw that it was a buck—with a trophy rack!

All the time I had been looking almost directly into the sun, but my cupped hands tended to shield the binocular lenses from glare.

I lowered the binoculars, picked up my scope-equipped rifle and put it to shoulder. But I never again saw the deer! Either I somehow failed to find the exact spot in the look-alike scrub, or the deer had moved deeper into the thicket! Worse, the lenses of the scope picked up strong sunlight, and soon my anxious eyes were releasing trickles of tears. I looked and looked, but never located the big buck. Finally, eyes smarting and clouded with tears, I had to give up.

The magic moment that favored the deer was, of course, the moment I took the binoculars from my eyes without first establishing some identifi-

cation spot in the thick brush for scope alignment. From that moment on everything favored the buck.

"How do you like it?" my hunting companion asked as he uncased an obviously brand new big game rifle, opened the action, and handed me the weapon. It was a Winchester Model 100 autoloader.

Checking the action to make *sure* it held no live ammunition, I closed the breech block and mounted the rifle to shoulder several times. It balanced nicely at all stages of mounting and quick aim, but when I pushed the safety off for a "dry" snap of the trigger there was an audible click.

"Fine," I said—"except the safety! A deer will hear that click 100 yards away!"

My friend scoffed at the possibility. But that very afternoon he learned differently.

He had not been hunting more than an hour when he spied a big buck coming toward him. From his place of concealment, my friend prepared to quickly stand up and shoot.

First, however, he pushed the safety to "Off" position. To the clearly audible sound, the deer reacted instantly, by shifting directly into high gear. The reaction was so fast that the buck successfully made running escape through the trees despite five hastily fired shots.

All my friend did was help the pulp-wood cutters harvest some timber! (Fortunately, a very down-

hearted hunter got a chance at another buck the next morning, and scored.)

Even the metallic click of released safety button or slide can reverse the circumstances of a magic moment. Take heed.

A friend had vainly hunted for more than ten years without getting a shot at a buck. Suddenly, while kneeling quietly alongside a big pine in one of Florida's game management areas, a 4-pointer came trotting by, only about 40 yards away.

Very carefully the hunter aligned the sights of his Winchester Model 94 on the animal's heart area and squeezed the trigger.

The buck trotted on, only slightly increasing gait and apparently untouched by the .32 caliber rifle slug. (Incorrectly, it was a slow expanding "Silvertip" bullet style instead of quick mushrooming soft lead point. Mistake No. 1!)

Determined not to lose his deer, my friend ran after the departing buck, firing as he ran. In all he fired six shots, without any evidence of hits. With rifle empty he watched the buck run on—then suddenly it fell, kicked a few times and lay still.

When my friend approached the buck, it was dead; it had been shot straight through the heart area. No other wounds could be found, immediately or during unhurried skinning.

Evidently, the first shot had been accurately placed; the other five shots were clean misses.

The magic moment, of course, was the hunter's decision to pursue the buck. Correctly, he should

(Continued on next page)

I kept binoculars focused on the body outline, above left, and when the deer turned its head slightly, I could see it was a buck . . . with trophy rack! Determined not to lose his deer, below, my friend ran after the fleeing buck—firing his shots on the run.



(Continued from preceding page)

have remained in his tracks and levered his other shots from that position, something he could easily have done as the buck was continually in full view. The fast traveling bullets would have done all the "running" needed.

Fortunately, the first shot was really a mortal wound; my friend got his buck!

It could have easily been a different story had that all-important first shot been missed, and had my friend not followed his buck.

An instantly made decision regarding intended bullet placement can make all the difference in the world in final results.

A Florida rifleman was hunting deer from ground level, while his companion occupied a tree stand on the opposite side of a thick growth of oak and pine. They were only about forty yards apart.

An 8-pointer came dashing past the rifleman hunting at ground level. The buck ran close—so close, in fact, that the hunter made an instant decision to shoot for neck instead of body. He, too, was using a "Silvertip" slow expansion type of bullet.

With the shot the buck kept going without faltering for even a moment. Unable to get in a follow-up shot, the hunter yelled an alert to his friend in the nearby tree stand, in whose direction the deer was fast making tracks.

The second hunter barely had time to turn, see the buck running right under his stand, shoulder rifle, swing it downward and fire.

As the rifle cracked, the buck turned a somersault and dropped dead.

Examination of the kill disclosed a neat, pencil-like bullet hole straight through the neck, but one not touching any connecting vertebrae. Another

bullet had grazed the buck's nose at a sharp angle, removing half the black nostril.

The likely story behind the hits is that the first shot was a true but not immediately effective one. Death probably came as a result of the second shot—not by the bullet striking a vital area, but because the painful nose shot probably caused the buck to sharply snap back its head and neck and get full effect of the neck shot. These conclusions were supported by the different impact angles of the bullets.

The magic moment for the first hunter was his wrong decision to make a neck shot (with the wrong bullet style) instead of a shoulder shot that would probably have proven instantly disabling. The magic moment for the second man was his good luck in hitting the deer in just such manner as to bring about full effect of his companion's accurate shot.

Actually, the second hunter came very close to missing altogether. Instead, his shot put the buck down for keeps.

Hunted game can make decisions that give them magic moments, too. It was in the early days of bowhunting in the Citrus Wildlife Management Area. I was attired in camouflage clothing and partially hidden in bushes alongside a game trail.

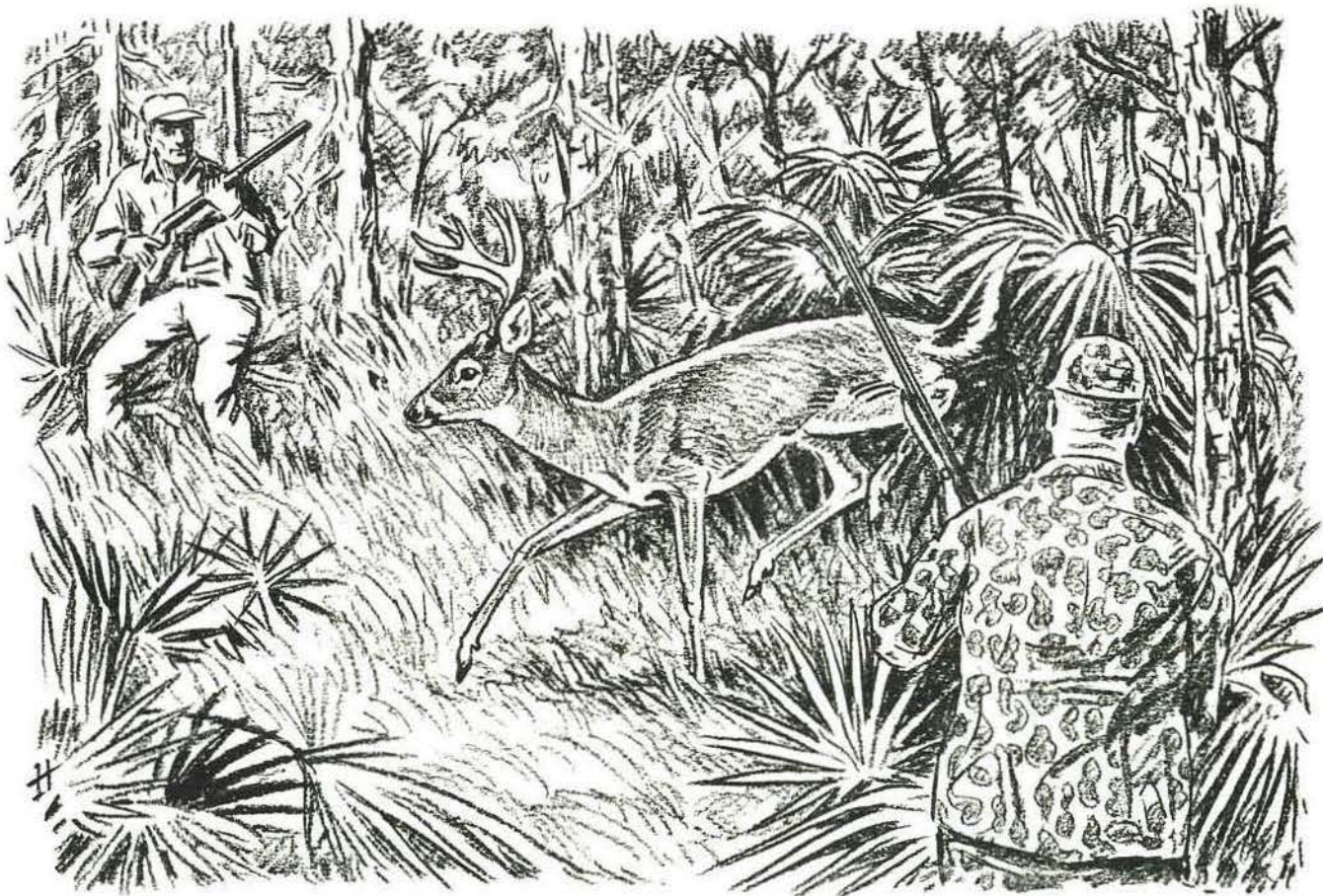
Within an hour after daybreak, a huge 8-pointer suddenly appeared in front of my stand, not thirty feet away. Seemingly, there was no preliminary approach and stop; one moment there was nothing at all in front of my stand; the next, the big buck was standing there in all his glory. We saw each other at the same instant.

I inched my bow to full draw, the buck watching me all the while, tense but still as a statue.

Unknown to me he, too, had made a decision—and



Just as I released the arrow, left, the buck dropped and twisted his head . . . the arrow rattled off his antlers breaking one point, but did not reach a vital area. A buck, above, ran between two hunters—neither could fire for fear of hitting the other. By the time they found safe shot-angles, the buck had disappeared.



Drawings By Wallace Hughes

put it into action just as I released the arrow, at only 30 feet. The buck dropped and twisted its head before dashing for concealment. The arrow that should have buried itself in his chest area hit his antlers and banged and rattled in the formation of points. One antler point was broken off, but the sharp broadhead never reached any vitals!

The magic moment was his, not mine.

Two of us were deer hunting off a forest road, perhaps 80 yards in, leaving two companions on the road.

Soon after, a 4-pointer was seen moving through the forest, and we both managed to get in effective shots. With the blasts of gunfire, a second and larger buck was glimpsed, but not long enough for either of us to make a shot. The buck's course was directly for the road. Rex had only time to yell "Big buck!" before the animal hit the road, running fast.

The buck ran right between the two hunters waiting on the clay road. Neither could shoot for fear of hitting the other. By the time the hunters had danced around and eventually found safer angles, the buck had disappeared into the brush.

The magic moment occurred when the buck chose to boldly run between the two close together hunters holding shotguns, instead of attempting road crossing behind or beyond them.

Magic moments of favorable or unfavorable influencing decision can also occur immediately after a shot is made. A common error is to assume that

you missed because the game does not immediately drop or take time vacating the scene.

To an experienced deer hunter the reactionary movements of a buck immediately following squeeze of rifle trigger can tell much.

A hard hit deer will usually—but not always—run from the scene with tail dropped from familiar flying flag position.

Other manifestations are likely to be even more story-telling.

A deer hit in the paunch will hunch and drop its tail at the impact of the bullet, and then try to find thick cover where it can hide.

If the deer stops running soon after being hit, chances are good your shot hit the vital liver or kidneys. If your wounded deer travels far after indicating a paunch hit, your slug probably passed through entrails or stomach.

A buck merely grazed by a shot across head, neck, or lower front of body will usually rear back before fleeing the scene.

If your target jumps straight up without hunching as you fire, your shot probably hit low.

A buck hit in the brisket or in areas that cause bleeding but not rapid weakness or disability, may require patient tracking to again bring it under the gun.

There is a magic moment connected with every shot fired at deer. Knowing when it develops and how to utilize it to advantage can often bring about happy hunting results. ●



Photo By Leonard Lee Rue III

The Gray Fox

foxes and foxhounds belong to an oldtime, hard-running outdoor tradition

TRUE OR FALSE? The gray fox climbs trees. There are no red foxes in Florida. Foxes perspire through their feet.

The correct answers are *true*, *false* and *true*—in that order. If you got two out of three right, you pass the course. If you got all three, you're probably a fox hunter.

The red and gray foxes are the only members of the wild dog family (*Canidae*) occurring naturally in Florida today. The gray is the only one with statewide distribution. Red foxes are found only in a few counties of extreme north-west Florida.

Both fox species are competent hunters of small birds and mammals—mostly rats, mice and rabbits. They possess keen eyes and ears, superb senses of smell, good speed, and well documented animal intelligence. But there are differences between the

gray fox and his red-coated cousin that go far beyond the colors of their fur.

For example, the gray is an expert tree climber while the red fox only rarely climbs. Gray foxes maintain den homes all year while the reds den only during the winter months. When driven by foxhounds, a gray fox will usually "tree" or "hole up" after a relatively short race while a healthy adult red fox will run mile after mile—possibly even enjoying the exercise, secure in the knowledge of its own stamina and craftiness, which enable it to run most hounds "into the ground."

One old-time remedy for asthma, prescribed by our forefathers for each other, was the eating of a fox's lungs—obviously in recognition of the animal's great endurance in the chase.

Leonard Lee Rue III, in his book, *THE WORLD OF THE RED FOX*, in recalling the old remedy, goes



Photo By Jim Reed

on to say the fox is not a walker; that if moving more than a few feet it *trots*, and can do so "seemingly forever" without tiring. And, as pointed out, the red fox can *run hard* for hours and hours without becoming exhausted.

The gray fox is more an animal of the woods and fencerow than of the wide open spaces. It hunts by night, sleeps or suns itself by day, and guards its territory from the intrusion of other foxes all the time.

Observations have shown that where both reds and grays range, the gray fox usually predominates, driving the red fox away from its own den in some instances.

Like domestic dogs, foxes also cache food. It is not unusual for a gray to bury half a dozen portions of its kill in various spots on its territory. And sometimes they return and dig up their "treasures" only to carefully re-bury them without eating any. They appear to simply enjoy hoarding and toying with their possessions.

Most people already know the foxes and how to tell them apart. However, a surprising number of Southerners refer to the gray fox as "red fox," apparently because of the little bit of reddish hair along the sides of the gray fox. A tinge of red hair doesn't make a red fox!

The real red fox is a beautiful animal indeed if
(Continued on next page)

Photo By Leonard Lee Rue III

Reynard, above left, takes a stroll. A sleek gray fox is a handsome animal—note the black "mane" on the tail and typical salt-and-pepper color of body fur. Most grays have some reddish trim, too. Tree climbing is routine for the gray fox but his kin, the red fox, at right, does not climb. His reputation is better known for stamina and cunning ways.

By GENE SMITH





Photo By Leonard Lee Rue III

Foxes "perspire" through their noses, their footpads, and by panting. They enter water and reportedly "walk" fences in efforts to lose the foxhounds in a race. At rest, they are playful even as adults, and love to sun themselves on chilly days. The pup, right, was unearthed near Pensacola by a bulldozer—became a gentle family pet—but smelly one.

(Continued from preceding page)

he's been eating well. The coat is rich, burnished orange-red and the tail is always *white-tipped*. The chin, throat and a strip of the belly are white. The feet and forelegs and the backs of the ears are black. It all adds up to a pleasant picture if the animal is healthy and well-groomed.

As for the locally familiar gray fox, he is not as flashy as his cousin. His color is predominantly salt-and-pepper gray. He has a blackish streak down the midline of the tail, which is *black-tipped*. His reddish hair is in evidence along the lower sides and on the legs—sometimes with a hint of orange mixed with black around the face. The undersides of the gray fox are whitish. Some specimens have a good deal of rusty red mixed with it. There is some black on the muzzle and on the backs of the ears.

The gray is, on the average, slightly larger than the red fox—and both are smaller than they look. Reds range from about 8 to 11 pounds for a healthy adult, with the average about 9½ pounds. The

gray fox has been reported up to about 19 pounds, although the average would be around half that, probably less for Florida specimens.

Hunting the fox with foxhounds is one of the oldest and most gentlemanly of our country's sporting traditions. Many hundreds of fox hunters in Florida thrill to the chase on fall nights and early morning hours. They gather to listen to their hounds as they "drive" the fleet little beast over hill and dale, through fields and forests.

Nine times out of ten, the fox escapes to run again another night. That's the way the fox hunters want it, for their sport is in the frequency of races and the quality of their dogs. A good fox population is valuable to them.

Occasionally, though, the gray fox is caught by the hounds, especially if it "holes up" in a shallow den. If it trees, chances are the hounds will be called off or caught by their handlers and the fox will rest until it is ready to descend—safe and sound.

Calling predators into range with a caller that imitates the squeal of a dying rabbit and killing them for sport with gun or bow and arrow is popular in some parts of the country. This obviously is frowned upon by the foxhound men, for it means less foxes for them to chase.

But there is no real dearth of foxes on normal range, and no evidence that the "varmint callers," who also take raccoons and bobcats, are hurting Florida's gray fox population. ●

Photo By Gene Smith



The Woodcock

Does She

or Doesn't She?



Artwork By Archibald Thorburn

The woodcock carries its young—fact or fiction? Some observers of years gone by have said it is a fact—some do not believe it. How about you?

THOSE NATURAL phenomena on which the experts disagree are sometimes the most fascinating, or the most bewildering, of all the countless *unknowns* in the wild kingdom.

Studies of bird migration, for example, are likely to go on for generations, and the mysteries of avian navigation probably will *never* be completely solved.

Another intriguing question "for the birds" recently came to the attention of FLORIDA WILDLIFE—from Holland, yet: *Does the woodcock* (our "timberdoodle") *carry its young*?

This is a much-discussed phenomenon in nature. It has never been decisively cleared up.

There are eyewitness accounts by ornithologists and naturalists of a parent woodcock taking one of its young between its legs and ferrying it to another location. Likewise, there are skeptics who usually say it only *looked* that way because of the bird's natural flight characteristics when it thinks its young are endangered—low and labored, with tail spread and feet dangling, a common ruse many birds employ to decoy intruders away from their young, usually a prelude to the old "broken wing" act.

So the question goes unanswered.

The Bols Snippen (Woodcock) Club of Amsterdam, Holland, in a letter to the editor of FLORIDA WILDLIFE, has asked for information from readers on the question. We think it's a most interesting query and a very unusual opportunity to promote international cooperation between the sportsmen-conservationists of our shrinking globe.

The Bols Snippen Club, incidentally, is an achievement-type sportsman's organization of about 2,000 members from many nations, according to

the club secretary's letter. He says membership is obtained by "shooting a right and left at woodcock during the autumn migration and in company of two witnesses."

The group was organized in Amsterdam in 1949.

Our own quick check in the bird books turned up just one reference to the behavior in question.

Noted American ornithologist Arthur Cleveland Bent's Bulletin 142, *Life Histories of North American Shore Birds*, published in 1927 by Smithsonian Institution, United States National Museum, contains the flat statement, "If the (woodcock's) young are too young and feeble to run, she may return when she thinks it safe, and carry them off between her legs, one at a time."

Apparently, Bent himself never witnessed the act but believed accounts by other observers, whom he called "reliable and accurate," who had seen the carrying of young by woodcocks and had furnished him their records. (Edwyn Sandys, 1904, and William H. Fisher, 1903.)

Acknowledging the contradictory stories, however, Bent also quoted one John T. Nichols, who pointed out that the "flight, with deflected tail and wide-spread legs . . . may . . . give such an impression erroneously."

Anyone having witnessed the woodcock's transporting of its young, or who has any information on the subject, can do a good service by corresponding directly with The Bols Snippen Club, P. O. Box 1575, Amsterdam, Holland. Or, you may write to The Editor, FLORIDA WILDLIFE Magazine, Game and Fresh Water Fish Commission, Tallahassee, Florida 32304. Information received will then be forwarded to the Dutch club's secretary. ●



Photo By Jim Reed



Photo By Gene Smith

Florida's Fishing Future

FLORIDA ENJOYS a national reputation for its high quality fresh water fishing. Last year, more than 152,000 nonresident sport fishing licenses were sold in addition to the 460,000 resident state licenses.

It is estimated that these fishermen contributed more than \$150,000,000.00 to the total economy of Florida in 1967-68 by purchasing items relating to the pursuit of the sport of fresh water sport fishing, a resource that has played an important role in making Florida the great tourist, recreation and retirement state it is today.

While sport fishing is not considered in the same category as production of food and fiber, it most certainly plays a major role in the making of a desirable environment and the maintenance of a healthy economy.

With the increasing pressures of modern life, the chance to "get away from it all" simply for recreation is taking on added importance. The future demand for fresh water fishing and related recreation will greatly increase with the expected growth of the state.

Pollution is the most important problem now facing Floridians in the battle for a quality environment and a desirable fresh water sport fishery.

In its broadest and simplest terms, pollution is anything that alters our environment for the worse, making it less livable, less desirable, and less con-

tributory to the well-being of man. We must understand that when the environment of many of the creatures man considers desirable deteriorates, so does the environment of man. If conditions are such that fresh water fish can no longer live and reproduce, for example, man had best stay out of that lake or river, too.

Numerous examples of pollution-caused environmental deterioration already stand out in Florida. Fortunately, we have such a tremendous wealth of fresh waters that people have been able to move to other lakes and streams when their favorite recreation area became polluted. But the pace of pollution has increased at such an astounding rate in the past few years that the outlook for the future of fishing and other water-related recreational pursuits is quite dim. We are rapidly running out of new bodies of water to turn to when others are polluted.

Through geological aging, greatly accelerated by man's activity, many Florida lakes and rivers are rapidly becoming highly *eutrophic*, or overenriched. Unless there is a change in the values we place on our fresh water supply, this trend will increase. The inevitable result will be septic conditions in most of the lakes and streams of Florida!

The changes in the aquatic environment are already irreversible without tremendous expenditures of money and manpower. Technology available at

Blights on the future of Florida's sport fishing are already numerous. Some major threats are, far left, discharge of domestic, agricultural and industrial wastes into public waters, often untreated; left and right, the extensive dredging, filling, channelization and draining—all enemies of delicate aquatic ecosystems, promoting rapid deterioration of water quality and loss of fish life, not to mention health hazards. The fisherman, below, faces a dimmer future, as do all citizens, unless we can soon reverse current trends and begin to clean up a mess while protecting the unpolluted waters.

By JOHN W. WOODS, Chief
Fisheries Division
LARRY SHANKS, Wildlife Biologist
DALE WALKER, Fisheries Biologist

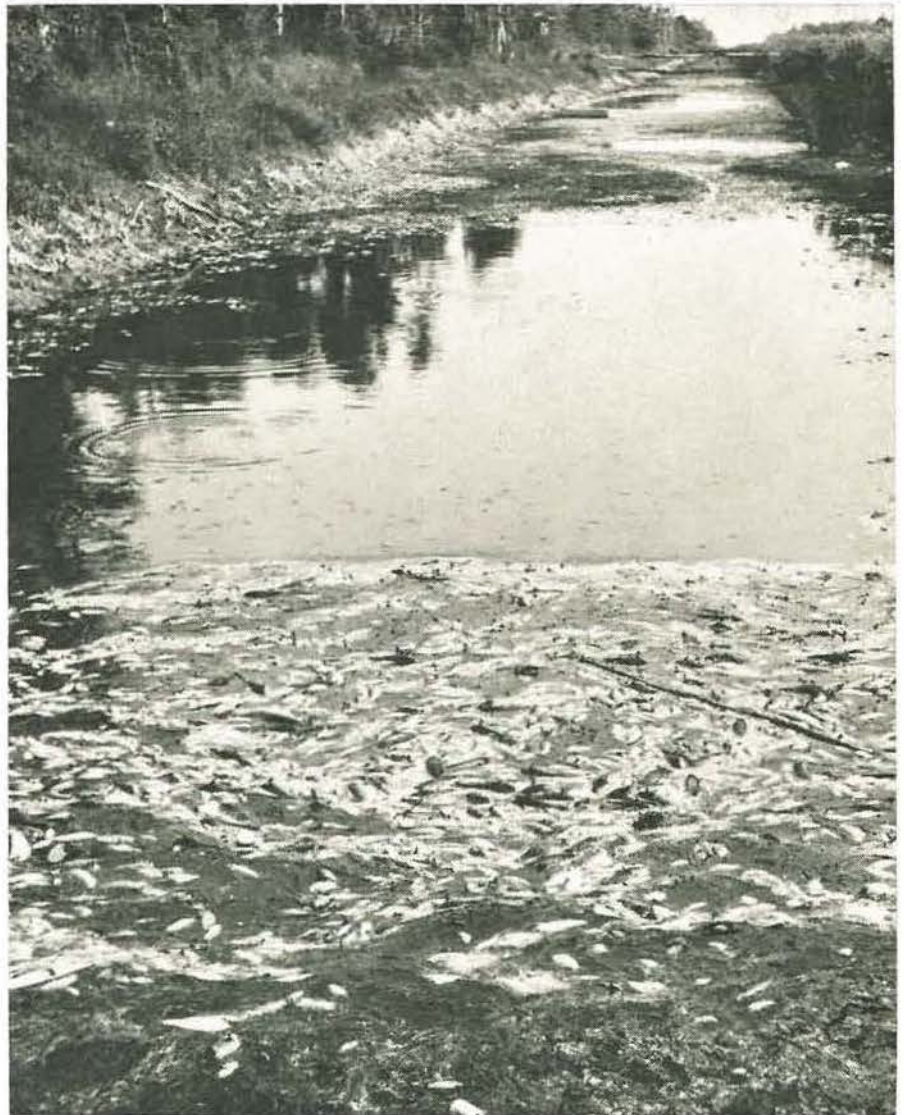


Photo By Jim Brantly

"progress"—something we once looked forward to—has become, in some ways, a day-after-day threat

Photo By Gene Smith



the present time can stop and reverse some aspects of eutrophication, but most people are not ready to accept the hardships or the costs involved in such undertakings.

Some of the major causes of degradation of aquatic habitat and fresh water fishing in Florida are:

(1) Discharge of domestic, agricultural, and industrial wastes into rivers and lakes without proper treatment. The gross examples of improperly treated waste being dumped into Florida waterways have been cited many times. Examples are the Fenhol-loway River, the St. Johns River from Palatka to Jacksonville, the Peace River, Lake Apopka, Lake Thonotosassa, and the Escambia River. Smaller, less publicized examples are even more numerous but no less important to those who are most directly affected.

(2) Stabilization and reduction of water levels in rivers and lakes which historically have fluctuated widely. Natural fluctuation helps oxidize organic

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Photo By Art Runnels

The stabilization of lakes degrades water quality. Natural fluctuation of the water levels helps keep lakes healthy. Walling and damming, left, may enhance waterfront property but this eventually transforms a "soup bowl" lake into a stagnant watershed nutrient trap. Overenrichment soon renders the lake unfit for fish or people. Drainage ditches and canals, below, are like a conveyor belt that carries nutrients plus pesticides to our lakes, streams and delta marshes. Sport fishing, right, has recreational and healthful and economic values.

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buildup and flushes out some of the soluble nutrients present in the lakes. Stabilization enhances waterfront development but transforms the lake into a stagnant watershed nutrient trap—and an ideal situation for rapid eutrophication, which not only destroys the aquatic environment for the desirable fresh water fishes, but renders the lake unsuitable for contact water sports. Eventually, of course, the waterfront property values fall.

(3) Increased runoff of pesticides and nutrients from the watershed. The natural marshes and flood plains which formerly acted as a "biological waste treatment complex," absorbing and utilizing excess watershed nutrients—these marshes and flood plains are rapidly being channelized and drained. Channelization provides an excellent "conveyor belt" to move nutrients and pesticides to our fresh water lakes, streams and estuaries.

(4) Unrestricted dredging and filling of lakes and streams for industrial and urban development of waterfront sites. In the last two years, over 200 illegal dredge and fill operations have been reported to the Trustees of the Internal Improvement Trust Fund. Each of the operations destroyed or seriously altered vital *littoral zone*, the shallow shoreline area necessary for nursery grounds for the desirable fresh water fish species.

(5) Unauthorized importation and introduction of exotic, or non-native, species of fish to Florida waters. Many of the introduced species compete with, and can probably replace, certain native fresh water fishes. It would be foolhardy to introduce exotic fishes for any purpose, weed control included, without extensive research into and consideration



Photo By Jim Brantly

of possible ecological damage to native fresh water aquatic fauna.

(6) Uncontrolled killing of water hyacinths and other so-called noxious aquatic weeds. By allowing the dead plants to sink to the bottom there is a rapid recirculation of nutrients into the water and a significant buildup of bottom-covering silt. Each time these plants are sprayed, it increases the opportunity for the nutrients to be utilized in a less desirable form, such as by algae growths.

(7) Failure to fully utilize a natural resource by restricting the removal of commercially harvestable fishes. In most cases this would be beneficial to all interests.

We have only touched on the problems on Florida's lakes and streams and the expected effects on aquatic life in the future. Water quality and the environment for aquatic life—and other life as



Photo By Gene Smith

well—will continue to deteriorate unless there is full implementation of available and future technology, or “know how,” to alter the present course. There are some things that will regenerate, or, at least, retard, the rapid destruction of the remaining desirable aquatic habitat; that will sustain or enhance our water resources. They are:

(1) All lakes in Florida should be allowed to fluctuate on a wide range to simulate natural conditions, thereby stimulating game fish production. In many cases, where physically possible, lakes may need to be severely drawn down (drained) in order to expose the bottom, promote oxidation, and thus set back the eutrophication process.

(2) More efficient nutrient removal and utilization of industrial, domestic and agricultural effluent, or waste, e.g., through photosynthetic sewage treatment and spray irrigation sewage treatment.

(3) Stringent zoning legislation should be enacted to protect all flood plains.

(4) All dredging and filling, except for enhancement of the aquatic environment, should cease.

(5) Stricter legislation to reduce and control the use of pesticides and herbicides should be enacted.

(6) To facilitate nutrient removal and full utilization of the fishery resource, increased fresh water fishing harvest techniques should be employed for the removal of certain species.

(7) Also to facilitate nutrient removal, there should be more work in the field of mechanically harvesting aquatic plants and using them as animal food supplements, or other commercial products.

(8) Investigate desirable native and exotic fishes

which exhibit superior short term qualities and can live in an adverse or marginal environment.

(9) Screen and commercially harvest native and exotic fish species where they are found in sufficient numbers to support the business. Such a harvest would accomplish the dual objective of nutrient removal and food production in addition to providing a boost for the local economy.

(10) Applicable short term management techniques may involve selective treatments and total renovation of the fish population, i.e., total kill and restocking, in some regions.

(11) Investigate various living organisms, native and exotic, which might safely control problem aquatic plants biologically.

Man has proved himself quite adept at upsetting the delicate balances in nature. Practices which either contribute nutrients and other pollutants to the *ecosystem*, or which accelerate the recirculation of these materials within the system—such practices result in environmental changes which persist after the practices have been discontinued.

Those intent on grandiose projects to mechanically and chemically remodel our environment have too often found that while they are experts with structural steel, concrete, ditches, dams, chemical formulas, and waterways, they are not trained in the application of ecological principles. The tragedy is in the fact that much of the aquatic and other environmental destruction already wrought in Florida by well-meaning project planners could have been avoided in the original planning.

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What has all this to do with the future of fresh water fishing in Florida? We say it has everything to do with it. We cannot continue to develop high quality sport fishing in waters that are becoming unfit for the survival—much less the successful reproduction—of fishes.

It is interesting to note that a society such as ours, where man can remove himself to some degree from the influence of nature, continues to ignore the fact that we are changing the environment to such an extent that some of the lower animals no longer can live.

If all this seems a little melodramatic or overdone—far removed from your own situation, don't you believe it! Nothing is more important in our time and in our state than reversing the trend of exploitation and devastation of our environment. If we fail to become concerned and active in this business of preserving our environment, we soon won't have time to worry about whether the bass are biting in Lake Jackson or how big the specks are in Lake Okeechobee. We will be too busy trying to *survive*!

What can the citizen do to help? Plenty.

Support habitat preservation. Reject wholesale pollution of the environment—flagrant violations of the law—but do not overlook the subtle offenders. The smaller, insidious polluters can cause considerable damage over the years whether they are dredging and filling, adding pesticides to the water, flushing oils and other materials down storm drains,

or whatever. Make your own voice heard on these matters, large and small.

A good example of what you can do is provided by two ladies from Miramar in south Broward County, Mrs. Joe E. Romano and Mrs. Jack Obermeyer. They have organized a movement called "Save Florida Lakes."

These ladies aren't arch-conservationists or lobbyists. They aren't great firebrands or idealists. They are two housewives who have become concerned enough with environmental problems to do something. They are fighting, in their own way, to save Florida's public lakes.

Through petitions and letters, publicity campaigns and public hearings, telephone calls and personal contacts these women are out to do whatever they can to call attention to the types of environmental problems we've been discussing. They want to save clean water for fishing and swimming, sure. But they also realize that the state's drinking water is in jeopardy, too; that in reality the needs of fish and the needs of people for survival cannot be separated. It is all one big fight—a fight for survival.

Mrs. Romano has contacted Commission personnel for advice and to offer her organization's support. Her pleas for clean water have reached her local legislative delegation and the office of the President of the United States.

A newspaper quotes her as saying, "Water quality once lost can never be regained. We want to draw attention before the damage is done. We want to breathe life into the lakes again." ●

The cost of clean water? It is roughly the same as the price of survival. Are we willing, and wise enough, to pay the bill to clean up and protect our aquatic resources in the future? Hopefully, yes! The alternatives are dire, indeed, for when the lower animals have disappeared, can people be very far behind?



Muzzle Flashes

HUNTING

it is safe to bet that firearms suffer from neglect rather than being worn out—action-cleaning is needed as well as standard bore-cleaning



By EDMUND McLAURIN

FOR DEER and other big game hunting, I like to use a single type sight—either a scope or an adjustable rear peep. The reason is that I believe in a single sighting plane, combined with good gunstock fit for the particular sight line used.

Many other hunters, however, prefer to have their large caliber rifles equipped with both scope and metallic sights, each type ready for instant use. I get numerous inquiries of just how this visualized ideal can be assembled on a big game rifle. There are several possible assemblies.

One way is to mount the scope tube on the left side of the rifle, offset to the center of the barrel and receiver, and clear of the sight line of the metallic sights.

A second method is to use a side mount with high tube-holding rings that position the scope directly over the metallic sights. This is desirable since it places the scope over the barrel, and affords the shooter instant choice of either aiming aid, both in the same vertical plane.

A third type is the pivot mount that can be unlatched by slight finger pressure and instantly flipped out of the way to the left of the receiver should the shooter want to use his receiver sights. The Weaver Pivot-Mount and the Pachmayr Low-Swing are typical examples.

A fourth type incorporates an adjustable peep aperture in the scope mount base, but requires complete removal of the scope tube and its holding rings if the auxiliary peep sight is to be utilized. Both the Williams Quick Convertible scope sight mount and the Redfield Jr. model can be had with auxiliary peep. I like these types—where there may sometimes be a need to change to metallic sight combinations when hunting.

After the scope mount base is permanently screwed on the rifle, sighting-in is carried out to determine the proper alignment of the peep, which once sighted-in is forgotten until needed.

The scope then is installed in its mount and given separate sighting-in. When the time comes, if ever,

that the peep is used, the telescopic sight, still in its holding rings, is readily slipped off the rifle. It is just as easily replaced to its former correct zero when desired.

IN ORDER TO successfully use a scope sight on certain hammer-cocking style rifles—like the Marlin models 336 and 39A and the Winchester models 94, 95, and 55—it is necessary to attach a hammer extension to the existing thumb spur.

These auxiliary extensions are made in side-projecting hollow sleeve form to fit over the factory hammer spur. They are fastened with a tiny Allen screw.

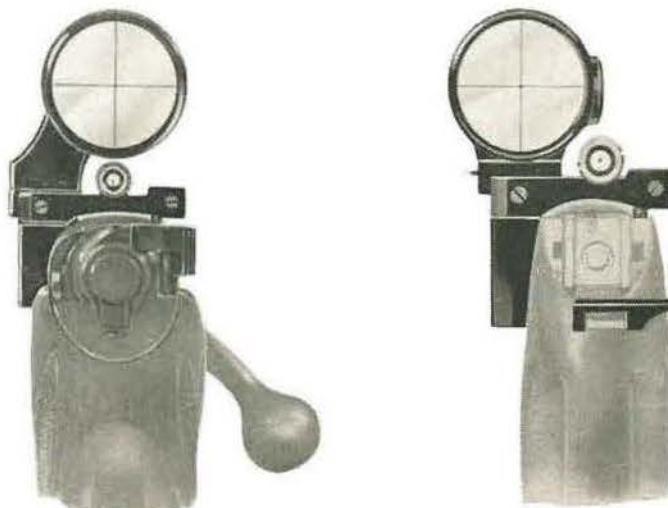
Hammer spur extensions permit easy cocking, even with gloved thumb, because they jut clear of the scope tube and thereby provide more positive, faster and safer hammer control.

Williams Gun Sight Company of Davison, Michigan 48423, makes both right and left hand extension models.

It is important that the set screw be kept tight at all times—not only to prevent the hammer extension from working loose and being lost, but because on high power rifles especially, a loose hammer spur extension can be dangerous to the shooter's eyesight. A dislodged unit tends to flip smartly to the rear on hammer release. The jar that results from the hammer's fall can easily pro-

(Continued on next page)

These are two examples of how a scope sight can be mounted on a big game rifle so that metallic sights can be retained for quick, optional use.



(Continued from preceding page)

vide the final, activating force that makes a loose extension come off.

Most makers of offset hammer spurs recommend that a tiny indentation be made in the factory hammer spur in which to anchor the tip of the Allen screw that holds the extension in place.

Not long ago, a shooter was struck in the right eye by a hammer spur extension that worked loose on a Marlin Model 39A .22 caliber rifle. The force of the rearward flip was sufficient to cut through two layers of eyeball.

I use hammer spur extensions on most of my lever action rifles of manual cocking design. To make certain the extensions stay safely in place, I pack the inside housing with epoxy cement before slipping them over the factory spur and tightening the holding screw into the tiny crater I've drilled in the factory hammer spur.

Any excess cement, and there will be some as the Allen screw is tightened, should be wiped off immediately for a neat job. Should the cement used be a different color from that of the hammer spur, I take an artist's paint brush and very carefully touch up off-color surfaces with matching enamel.

If you are now using a hammer spur extension, better check its tightness.

It's A SAFE BET that far more sporting firearms become inoperable through neglect or abuse than are ever worn out in field service.

Besides rust—the enemy that is ever alert to attack, given opportunity for bold or sneak tactics—most guns are victims of neglect, often so prolonged that in time they are not worth the costly repairs needed to again put them in first class condition.

Even simple cleaning can benefit the average shotgun or hunting rifle. Many firearms carried afield this hunting season were put into active service without much more than a second glance as to condition.

It is not necessary to completely disassemble all working parts in most instances; in fact, it is generally not advisable. Breaking down the action into major component parts and washing all in mineral spirits, using pipe cleaners and tooth picks to reach into small recesses, will work wonders in helping mechanical parts to function smoothly and dependably and extending useful life.

If you have an old ear syringe or car battery bulb syringe, you can squirt the mineral spirits solution into recesses and exposed components with considerable force. This helps to dislodge and wash away dirt, grit and old grease from spots you normally would miss in a partial disassembly type cleaning job.



The Pachmayr Low-Swing scope mount can be unlocked and flipped out of the way in an instant when a fast change to factory sights is desired.

Any of the cleaning solution that splashes or runs on gunstock should be immediately rubbed off with an absorbent cloth.

Also, if there is a service station nearby, it is a good idea to ask use of the station's powerful air blower to further clean—and DRY—the metal parts given mineral spirits bath. Thorough drying is important, before reassembly of major components. Lubricate the action lightly with a good gun oil.

On autoloaders, I do not use oil as lubricant, but spray moving parts with Rice's XF-15 graphite. The carrying liquid dries within two minutes, leaving a thin, tough coating of graphite to provide the necessary lubrication. Not being oily, the treated components do not as readily accumulate the adhering grit that oily surfaces seem to quickly acquire.

After finishing the cleaning of metal parts, it is advisable to rub the gunstock with oily rag or wax to restore luster and any wood oil that may have been removed by accidentally getting mineral spirits on the stock. (If the gunstock has been linseed oil finished, apply only linseed oil, rubbing it on the wood with your hand until your palm gets warm from friction, and taking care not to leave any excess linseed oil on the stock to form a gummy surface film.)

Such cleaning takes little time and is easy to do. It's just that few shooters ever get around to doing even once in a long while that which they should do at regular intervals.

Just about the most neglected and abused in use sporting firearm I ever saw was an old style Browning autoloading 12 gauge shotgun that a backwoods Florida deer hunter brought to a city gun shop while I was a visitor. Obviously, it had been seriously neglected—the breech bolt and the receiver's interior were notably disreputable.

A little subtle questioning brought forth the background story, given in shy manner but with forthright honesty.

The Browning had been carried in a Jeep station wagon that invariably had its windows tightly closed on cold days of hunting season. The gun had a resting place close to hand should game be spotted while driving, and a quick stop and exit be necessary.

The owner was also one of those individuals who almost continuously keep either a "chaw" of tobacco or can of beer active.

With windows stubbornly tight most times, and no can handy, there was one convenient place inside the Jeep to get rid of too ample tobacco juice—and that was the inviting open underside of the Browning's action.

It was all right, the bewhiskered old patriarch explained; he always washed out the action with "a little beer" before starting to hunt! "But of late," he said, "my gun hasn't been working too well. That's why I brought it here."

Some of the moving, working parts were so eaten up and pitted by probable chemical action of tobacco and beer, they had to be replaced—after

which the rust-patined old Browning again functioned reliably.

It is unlikely that you or I will ever give a field gun such abuse. Even so, it is easy to be neglectful in performing the regular action-cleaning (not simply bore-cleaning) that a good gun deserves.

THERE IS A WIDE variety of outdoor subject films and shooting titles for club or group showing, but very few devoted to the successive technical stages of home shotshell and cartridge reloading.

At one time the C-H reloading tool people had a couple in educational circulation, but with the tragic death of Charles Heckman, founder of the company, the C-H line took both public popularity and financial dip, and the two reloading films ceased to be available.

Now, Badger Shooters' Supplies (Lew Bulgrin) has taken over the remaining assets and is trying to bring back the once-preferred line of reloading tools. Maybe the once-entertaining C-H reloading films will be updated and given fresh circulation.

Meanwhile, Brentwood Productions, Box 49586, Los Angeles, California 90049, offers a 16mm color sound film titled "Shotgun Shell Reloading." It runs for approximately 13 minutes.

Sierra Bullets, Inc., 10532 South Painter Avenue, Sante Fe Springs, California 90670, has a 17-minute reloading film titled "Save The Case." I haven't seen it, but anything about sporting ammunition reloading is bound to be interesting to anyone who likes to shoot. The film can be had on loan.

For years I have tried to get the national reloading trade association, with which all the leading makers of reloading tools are affiliated, to bring out a comprehensive set of educational reloading films helpful to all reloaders, whatever their choice of reloading tool brand.

I figured that by pooling member budgets, a Jim Dandy library of educational reloading films could be made and circulated to reloading tool trade advantage, and to the benefit of shooters who are fascinated by reloading procedures. The idea was given endorsement by the National Association, but evidently the manufacturer-members never got around to agreeing which member's line of reloading tools should be used in filming the "how to" reloading procedures. A few are now issuing their own product promotion films.

I still think my original idea good; pooling production costs would make available the finest of instructional films.

Meanwhile, anything the individual reloading tool companies produce and release for shooter education will find ready welcome—as the Brentwood and Sierra productions are currently receiving. ●

Home reloading of sporting ammunition is a fast growing—and economical—hobby.





CONSERVATION SCENE

Endangered Wildlife Bill

IN 1968 the House approved a plan to help protect the world's rare and endangered fish and wildlife from commercialization and sent it to the Senate, where it was referred to the Committee on Commerce. Not much happened. Time passed. The proposal finally was reported favorably late in the session, but under a gentlemen's agreement that it not be brought to a floor vote. It wasn't; the 90th Congress closed shop hours later and the bill was dead. Disappointed conservationists were told not to lose heart; the committee would bang out a good bill the "first thing next year," according to the Wildlife Management Institute.

Next year now is three-quarters gone. Everything looks about the same, except this is the second session of a new Congress, not the first. The House again approved a good bill, H.R. 11363, on July 21. Again it was entrusted to the Senate Commerce Committee, along with similar Senate bills, S. 335, S. 671, and S. 1280. Insiders predicted the bill would be out of committee, through the Senate, and on the President's desk before the summer recess on August 13. That didn't happen. The word now is "after October 1." But the committee has been slow in picking up its pre-recess pace.

Will the United States become a world leader in wildlife conser-

vation by showing other developed nations that it is determined to halt the admittedly destructive traffic in furs, hides, pets, and novelties? Only Senator Warren G. Magnuson (Wash.), chairman of the full Senate Commerce Committee, and Senator Philip Hart (Mich.), head of the group's subcommittee responsible for the bill, can say.

Time passes. The deadly game goes on. Conservationists are concerned. They have a right to be.

Fact-Filled DDT Records

A LIMITED NUMBER of copies of the hearing record compiled early this year during Wisconsin's deliberations to decide if the chemical DDT should be banned as an environmental pollutant are now available, the Wildlife Management Institute reports. Attorneys awaited the transcript to prepare their briefs.

In the period between the hearing adjournment in May and transcript release, a DDT task force of the National Agricultural Chemical Association requested the hearing be dropped without a decision by the state's Natural Resources Board. That group contends that use of DDT in Wisconsin should be decided by a newly established Pesticide Review Board.

Standing firm for a decision is the Citizens Natural Resources Association, which had petitioned for the hearing. Members contend that it will take a year for the review board to become sufficiently organized to act on use of DDT. Association President Frederick Baumgartner said he believes the chemical manufacturers seek to delay a final decision on the historic case.

Copies of the fact-filled hearing record are available through the

Wisconsin Department of Natural Resources, Box 450, Madison 53701. One set of the complete hearing record consists of 44 volumes—36 of testimony and 8 of exhibits—contains about 45,000 pages, weighs 40 pounds, and costs \$675.

Environmental Qualities

DESPITE THE growing emphasis on conservation, the U.S. is losing the battle against environmental destruction according to a National Index of Environmental Quality just released by the National Wildlife Federation.

The first annual EQ appears in the August-September NATIONAL WILDLIFE Magazine, and cites air pollution as the most serious threat to environmental quality. Automobile exhaust is by far the greatest pollutant, followed by home heating, industry and refuse burning. The 1969 Air Quality Index: **Very Bad** and getting worse.

The Water Quality Index stands at **Bad**, and despite State and Federal attempts to legislate the crud from the nation's fouled water, more than 2000 communities still discharge raw sewage, and industries have influenced many state water quality standards to allow increased pollution.

Despite improved soil sciences and agricultural practices, the Soil Quality Index rates only **Fair**, and steadily losing ground. The U.S. Soil Conservation Service estimates that wind and water erosion steals more than \$1 billion per year from some 180 million acres of cropland. This amounts to 1½% of the current value of the land.

Although the Forest Index reading is **Fair**, the amount of standing timber continues to de-

cline each year. In 1968, more than 600,000 fewer acres were planted or seeded than in 1960. To provide the nation's wood products in the future, foresters face the obvious challenges of developing new management techniques and greater use of hybrid trees, fertilizers and insect controls.

Wildlife is a sensitive barometer of environmental quality, and the Wildlife Index is only Fair with a bleak future. Approximately 40 bird and animal species became extinct in the U.S. within the past 150 years, and 89 more are currently on the "Endangered Species List."

Only the healthy condition of most game species keeps the total wildlife picture a cut above disaster. There are more deer in the U.S. today than at any time in history. Small game animals including rabbits, squirrels, pheasants, quail, grouse and dove are thriving. But they, like many waterfowl species, are threatened by the continuing shrinkage of natural habitat and inroads of pollution and pesticide contamination.

Although the Mineral Index is **Good**, there is urgent need for a new national policy for exploitation of these valuable non-renewable resources. The nation's municipal incinerators alone contain recoverable minerals amounting to an estimated 6 billion tons of iron and 400 million pounds of aluminum, copper, zinc and other nonferrous metals. Surface mining has destroyed more than two million acres of fish and wildlife habitat and more than 80 percent of all land disturbed by surface mining has not been reclaimed by the mining industry.

It is clear the 1969 Index of Environmental Quality for the world's richest, most powerful country is going downhill at a disturbing rate, forecasting a third-rate life for future generations.

Tom Kimball, Federation Executive Director, said "the prospects



Teal and Florida ducks are being tagged on the wing, above, with colorful two-inch-long plastic-fabric, by biologists during the fall migration period. This is to learn more about waterfowl winter movement patterns. Hunters, and all other observers, are requested to be alert for tagged waterfowl, and report sightings to:

Wildlife Research Office, 2606 N.E. 17th Terrace, Gainesville, Florida 32601

Be sure to state the species of duck, date and location observed, and color of the marker. Send return address in order to receive a report about birds you observed.

are extremely disturbing, but not really too surprising. You get just what you pay for, and far less than 1 percent of every tax dollar goes into programs even remotely related to protection and improvement of our environment."

Broader 'Gator Problems

OPPORTUNITIES for protecting dwindling numbers of American alligators involve more than increasing patrolmen in Everglades National Park, according to the Wildlife Management Institute. Protection of Everglades' alligators from poaching is important, but to focus all the Department of the Interior's attention there is to deny needs of the animals at other federal lands.

Five units of the national wildlife refuge system in Georgia, Florida, and Louisiana shelter an estimated 15,000-20,000 alligators, but budget restrictions prevent the Bureau of Sport Fisheries and

Wildlife from assembling more than token patrol forces to protect them. Twenty other national wildlife refuges in the South have alligator populations numbering from 10 to 1,000.

On the 145,000-acre Loxahatchee Refuge in Florida, seven men are responsible for all phases of the refuge's program and protection. Even if they could concentrate on poachers, their job would be a formidable one. On the Sabine Refuge in Louisiana, refuge personnel found 12 alligators shot during a five-months period and took six others away from poachers.

Enactment of the rare and endangered wildlife bill, with its prohibition against interstate and foreign traffic in the skins, hides, and parts of animals taken contrary to law, will help reduce alligator poaching. But there is no getting away from the fact that the national wildlife refuge program is hard pressed for money.

Madison County

The Wild Turkey Returns

By STEVEN STAFFORD, Wildlife Biologist

THE WILD TURKEY has had its ups and downs in Florida, but for the past 15 years it has generally been on the upswing. This trend has resulted from a combination of factors: improved habitat, more effective game management practices, better protection—and even urbanization.

As for management, the practice most responsible for restoring the wild turkey has been the restocking of depleted areas with wild-trapped birds. Many areas recently devoid of turkeys have been stocked with good results.

Madison County is a good example—you might say a "textbook" case.

Madison and some other counties in Florida had low, or *no*, turkey populations around the late 1800's and early 1900's. Wildlife law enforcement was nonexistent or ineffective, and homesteaders ate turkey every chance they had. The chances came less and less frequently.

Heavy logging pushed the wild turkey further into oblivion. About 1940, agricultural land uses in Madison County began a transition that found grain crops replacing cotton and other fiber crops.

Gradual urbanization—people moving out of the woods into towns and villages—and reforestation of woodlands that had been extensively logged also meant improved conditions for turkeys.



These land use changes left the county with an excellent turkey habitat but without sufficient breeding birds to repopulate wild turkeys county-wide as a harvestable resource.

This condition was accepted as a "fact of life" until 1963, when the sparseness of Madison County's wild turkey population was brought to the attention of biologists of the Game and Fresh Water Fish Commission.

A brief investigation revealed practically no turkeys in the county. Discussions with county residents gave a good picture of the situation.

For instance, George Hendry, local wildlife officer, who is a Madison County native and has spent the last 20 years patrolling the county, recalls that the sighting of a turkey in Madison County as far back as 1928 was worthy of newspaper comment. It was evident that there simply had not been many turkeys there since the very early days. So, although the habitat was excellent by 1960, the turkey population was not there to take advantage of it!

As the success of any game population depends largely on public support, the idea to restock was presented to and received wholehearted support from the local citizenry.

Surveys by air and on foot revealed several suitable release sites. Lykes Brothers Fisheating Creek Wildlife Management Area in Glades County, nationally known for its fine wild turkey population, provided the birds for restocking.

Between January 1964 and February 1967, the Game and Fish Commission released 58 hens and 40 gobblers in selected locations in Madison County. The turkey season was closed temporarily to give the birds a chance to establish breeding populations.

Public support, and the support of the San Pedro Bay Sportsmen Club, was evident. Residents began to report sightings of turkeys almost at once, and reports of poaching were at a minimum. Two persons were arrested with a pair of turkeys and had their car and gun confiscated. This is thought to have provided a good deterrent to other would-be game law violators.

After the first spring, as reports of hens with poults became numerous, a favorite pastime of some Madison County people was a Sunday cruise to try to see wild turkeys.

In some locales, reproduction was so successful that it was feasible to capture and relocate some of the turkeys to other parts of the county, which helped biologists assure countywide distribution.

Biological data were continually gathered on the

Rev. Dozier Sapp, Sr., David Cruise, Eddie Sapp and father, Dozier Sapp, Jr., left to right, bagged these Madison County wild turkeys on Christmas Eve—part of some 225 birds taken there during the 1968-69 season.



Photo By Leonard Lee Rue III

The wild turkey a rare bird? It was in Madison County, as far back as 1928 and as recently as 1964. A Commission turkey restoration project over the past six years has changed the picture. Madison has about 2,000 home-grown wild turkeys today—and an open hunting season.

project and by late 1967 it was determined there was a turkey population sufficient to allow hunting. Madison County was opened for the 1968-69 season.

Hunters checked in 147 turkeys during the 1968-69 fall hunting season and 25 gobblers during the spring ('69) season. The total estimated kill for both seasons was at least 225 birds.

If there *were* any Madison County turkeys that were less wary than usual because they were raised without being hunted, you can bet all that has been changed. There are lots of wise old birds now, but the harvest is expected to be good again this season.

Right now there are about 1,900 wild turkeys in Madison County. This is about one turkey per 200 acres of woodlands and croplands, which makes the Madison County turkey population probably as high as that of any other county in northeast Florida.

The success of the turkey restoration program in Madison County can be attributed to (1) the use of pure wild turkeys for restocking (as opposed to inferior pen-reared, semi-wild turkeys), (2) the excellent vacant habitat for turkeys, which had resulted from changes in land use, (3) protection during the time the county was closed to turkey hunting, and (4) enthusiastic public support and cooperation.

If any one of the above had been lacking, the program could have failed. ●

Game Management Notes

A WILDLIFE RESEARCH paper titled "Capturing Snipe with Mist Nets" was presented by Wildlife Biologist Michael J. Fogarty of Gainesville, at the 23rd Annual Conference of the Southeastern Association of Game and Fish Commissioners, held in October at Mobile, Alabama.

The paper described materials, methods and results of a snipe banding study, supported by the Bureau of Sport Fisheries and Wildlife, initiated in Florida in October 1967 as part of an accelerated research program on migratory North American shore and upland game birds.

In two winters, Fogarty and his assistants were successful in leg-banding 1,015 Common Snipe (*Capella gallinago*), of which 994 were captured by the use of "mist" nets, a descriptive name well chosen for such nets, for they are nearly invisible. Made of nylon threads, the long nets are suspended between long bamboo or other poles when in use.

Sets of up to 18 separate mist nets were used in the study. These were arranged in such a way that birds flushed from the ground by "drivers" flew into the fine meshes and became ensnared.

The site of the study was Paynes Prairie, a broad, grassy basin of about 12,000 acres near Gainesville in Alachua County. The prairie was once a lake bed but currently is kept drained for use as cattle range. The favored snipe habitat was an area of about 500 acres on the north central edge of the prairie.

Various birds other than snipe were occasionally caught in the nets, according to the author, but the large 4-inch mesh size kept this to a minimum while also aiding in the easy removal of struggling birds from the webbing.

Mortality of captured birds was extremely low throughout the study.

A PAPER PRESENTED at the Game Technical Sessions of the Southeastern Association of Game and Fish Commissioners meeting at Baltimore, Maryland, last year by Lovett E. Williams, Jr., was named "Outstanding Game Paper of 1968."

The announcement came at the Mobile SAGFC conference in October.

Williams' paper, "A Study of Nesting Turkeys in Southern Florida," described life history investigations of the wild turkey. During the study, 35 turkey hens were instrumented with miniature animal tracking radios and monitored during the nesting season.

The paper was co-authored by David Austin, Neal F. Eichholz, Tommie E. Peoples, and Robert
(Continued on next page)

(Continued from preceding page)

W. Phillips, all of the Commission's Wildlife Research Project, which has offices in Gainesville.

GAME MANAGEMENT Division estimates Florida's deer population is about 450,000 and expects hunters to harvest between 40,000 and 50,000 during the 1969-70 season, according to James A. Powell, chief.

The harvest estimate is projected on the basis of hunter success ratios of recent seasons, while the population estimate comes primarily from deer censusing at various locations around the state—no simple task, but an important one.

According to Dr. O. E. Frye, Jr., Commission director, "Florida's deer population has experienced rapid increase in recent years. The need for accurately measuring this expansion has become increasingly important, for to properly manage our deer herd and determine the necessary harvest in relation to range conditions, we must know the number of deer in a given area.

"Since we cannot line wildlife up and count it, game biologists have developed other methods for making a head count of deer. But it took years of field research to arrive at fairly standard techniques of censusing deer."

Wildlife Biologist Lewis K. Jeter of Crestview, with long experience in such matters, summarizes the methods as *direct* and *indirect*.

The direct method consists of counts of individual animals in a sample area, visually, with the results being used to project the total estimated population for a given tract mathematically.

The indirect census method may include several types of sampling in which no deer are sighted, but tracks and droppings are tabulated to indicate the density of the local deer population.

The terrain, vegetation type, and amount of available manpower are some of the factors determining which census methods will work best in a given part of the state, according to Jeter. For example, graded roads, especially those that follow section lines, lend themselves ideally to the track count method. In this type census, workers tabulate all the tracks on a given grade—usually after a night or early morning shower, or after dragging the road to erase all old tracks. The number of different fresh tracks is divided by the number of miles traveled then equated to the square miles in the area from which the deer moved.

Another method of determining deer populations is a well-known "rule of thumb" formula that calls for multiplying the total kill of legal bucks by ten.

Complete hunting season information for 1969-70 appeared in previous issues of FLORIDA WILDLIFE. Summaries of all rules and regulations may be obtained from County Judge offices, where license sales are made, or from the Commission offices listed on page 3.



Photo By Lovett Williams

More than a thousand Common Snipe were banded in Florida in two winters. Snipe were placed in soft muslin bags for ease in handling and weighing before banding and release. Capture method? "Invisible" nets. Sacked snipe seems set to snooze.

The result will be remarkably close to the population from which the deer were harvested.

Aerial counts, hunter harvest, and spotlight counts are other means of arriving at deer population estimates.

"The amazing thing about deer census methods is the way the results of one technique compare with another," says Dr. Frye. "For example, a spotlight count in an area of south Florida flatwoods indicated an estimated 500 deer in the area. A track count in the same area resulted in a favorable comparative index of 432 deer."

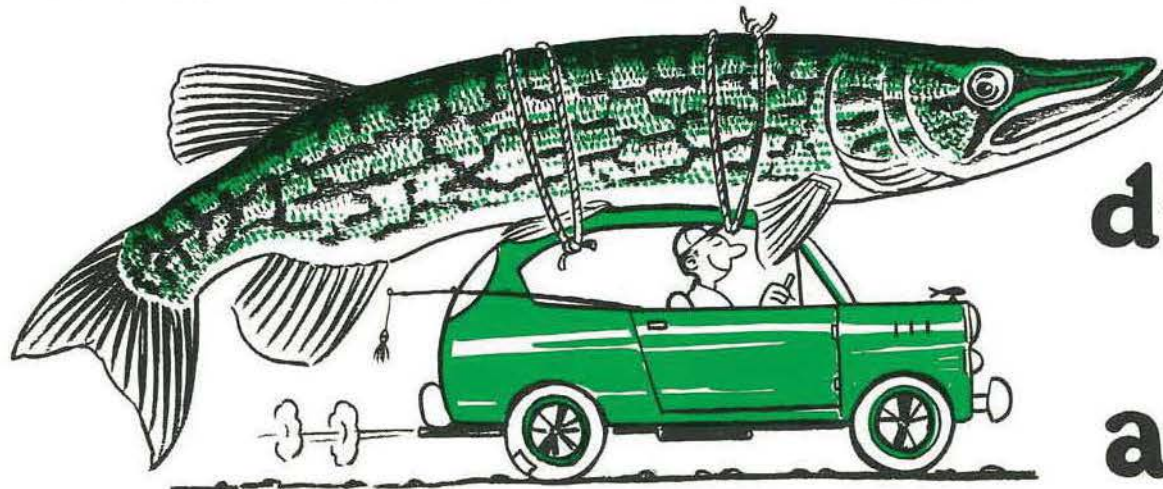
Deer drives by counters walking shoulder to shoulder (almost) are the most accurate of all deer count methods, say biologists, but it is also the most expensive, and it isn't adaptable to thick scrub or swampy areas.

HUNTERS ARE REMINDED that free subscriptions, or extensions, to FLORIDA WILDLIFE are again being offered as rewards for turning in radio tracking equipment or leg bands from wild turkeys taken this season in Lykes Bros. Fisheating Creek Wildlife Management Area, Glades County. (See Game Management Notes, page 34, FW, February 1969.)

For every radio transmitter returned, a 3-year subscription will be awarded; for every leg band, a 1-year subscription.

Last year, 84 years' worth of subscriptions—1008 issues—were "paid out" to 28 research cooperators. One hunter killed two radio-equipped turkeys! ●

For that BIG ONE that



didn't get away

ELIGIBILITY REQUIREMENTS SPECIES

LARGEMOUTH BASS

.....8 pounds or larger

CHAIN PICKEREL

.....4 pounds or larger

BLUEGILL (BREAM)

.....1 1/2 pounds or larger

SHELLCRACKER

.....2 pounds or larger

BLACK CRAPPIE

.....2 pounds or larger

RED BREAST

.....1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

FLORIDA WILDLIFE'S FISHING CITATION

is available without charge, to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the fresh-water game fish of the prescribed species and size requirements. Citation, showing recorded date of the catch, will be mailed to the applicant upon receipt of the following application form that has been properly filled out and signed.

Only fishing citation applications received within 90 days from date of catch will be honored.

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE Date _____
Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print) _____

Address _____

City _____ State _____ Zip No. _____

Species _____ Weight _____ Length _____

Type of Tackle _____

Bait or Lure Used _____

Where Caught _____ in _____ County

Date Caught _____ Catch Witnessed By _____

Registered, Weighed By _____ At _____

Signature of Applicant _____

CUT OUT AND SAVE THIS APPLICATION BLANK



Canada Goose

Photo By Leonard Lee Rue III

FLORIDA WILDLIFE Magazine
Game & Fresh Water Fish Commission
Tallahassee, Florida 32304

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